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# Eastern Red Cedar

(*Juniperus virginiana*)

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Eastern red cedar is fast disappearing as a commercial wood. It has been sought after unceasingly since early colonial days, both for domestic consumption and for export, on account of its exceptional cutting qualities, durability, rich color, and aromatic odor. As a pencil wood eastern red cedar has not been equaled, but it can no longer supply the demand for pencil stock and substitutes are taking its place in increasing quantities. The tree grows scatteringly throughout the eastern half of the United States under a wide range of conditions, and was formerly abundant from New Jersey and New York southward to Florida and Mississippi. Eastern red cedar is in great demand for fence posts on account of its durability, and large numbers of young trees are cut for this use before they have an opportunity to reach saw-timber size. The pleasant, aromatic odor of the wood and its reputation for keeping away moths have made it popular for chests, cabinets, and closet lining. Unfortunately the tree acts as a host for a cedar-rust fungus from which spores are carried to apple trees with serious results to the apple crop. No method has been found to check the harmful effects of this fungus on apple orchards except to cut down all the cedar trees within a distance of several miles.

**Nomenclature.**—The name "eastern red cedar" is commonly used. Sometimes it is shortened to red cedar or even to cedar. Names used less frequently are red juniper, savin, and juniper.

**Distribution and growth.**—Eastern red cedar grows throughout the eastern half of the United States (fig. 1) from Maine to North Dakota and southward to eastern Texas and Florida.<sup>1</sup> It grows under a wide variety of conditions—in good soil and in poor, on hilltops and in swamps. The largest remaining stands of eastern red cedar timber are probably in Tennessee, Kentucky, Alabama, and Virginia. Here trees 80 to 90 feet high and over 3 feet in diameter were formerly not uncommon. Practically all of the larger trees have now been cut, and a tree with a diameter of 18 inches is considered large. In these regions trees 20 to 30 years old are generally 18 to 24 feet high and

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<sup>1</sup> The red cedar in the coastal plain from South Carolina to Florida may be either eastern red cedar or its close relative, southern redcedar (*Juniperus silicicola*). The two species are cut and marketed without distinction.

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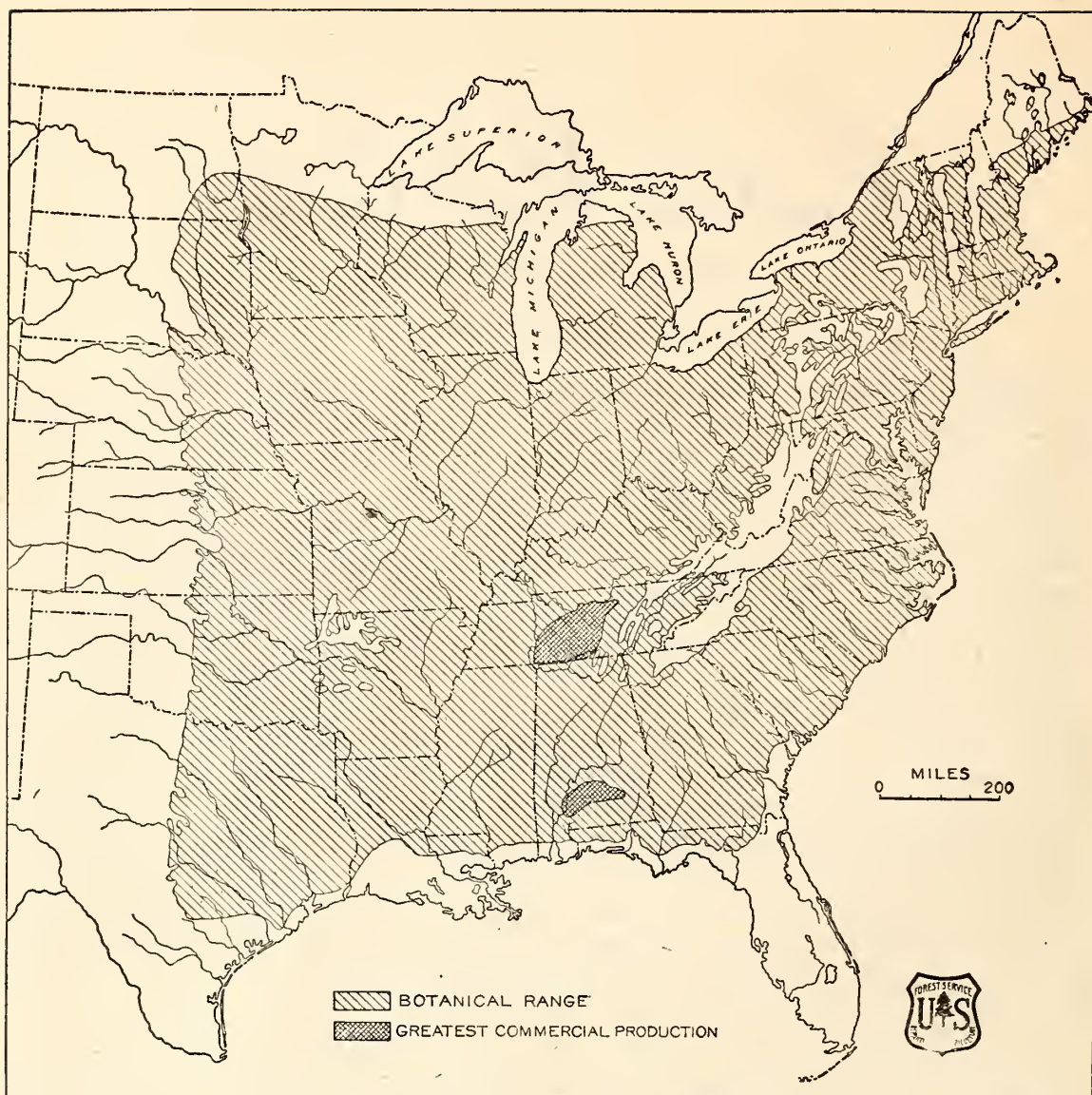


FIGURE 1.—Range of eastern red cedar (*Juniperus virginiana*).

2¼ to 3 inches in diameter. Trees 16 to 22 inches in diameter are generally 130 to 150 years old. Eastern red cedar produces its seeds in a berrylike fruit at a very early age. Birds eat the berries and serve as one medium for a wide distribution of the seeds. Fire is the tree's worst enemy. It quickly burns through the thin bark or scorches the roots, which generally lie near the surface of the ground.

**Supply.**—The only definite information on the stand of eastern red cedar saw timber in the United States is the findings of a forest survey conducted in the Southeast in 1934.<sup>2</sup> This survey covered all or part of the following States: Alabama, Arkansas (part), Florida, Georgia, Louisiana, Mississippi, Oklahoma (part), South Carolina (part), and Texas (part). The only States among them in which enough eastern red cedar occurred to justify listing as a separate species were the following:

	Board feet
Alabama-----	72, 700, 000
Georgia-----	9, 500, 000
Mississippi-----	20, 000, 000
<b>Total</b> -----	<b>102, 200, 000</b>

<sup>2</sup> This survey was conducted by the Southern Forest Experiment Station of the U. S. Forest Service, as part of a Forest Survey of the United States.

In 1909 the stand of eastern red cedar in Kentucky was placed at 34,000,000 board feet,<sup>3</sup> and the stand in Tennessee, where the largest supply of eastern red cedar was located, was estimated at 10 times that amount or 340,000,000 board feet. The stands in both Tennessee and Kentucky have been heavily cut, as indicated by the leading place these States have taken for many years in eastern red cedar lumber production, but it is highly probable that Tennessee still contains considerably more eastern red cedar saw timber than any other State. It is estimated that not more than one-third of the stand reported over 30 years ago in these States remains, or approximately 11,000,000 board feet in Kentucky and 113,000,000 board feet in Tennessee. If it is assumed that the stands of eastern red cedar in the remaining States where it grows, which make up over one-half of its range, contain 100,000,000 board feet, a very rough estimate of the total stand of eastern red cedar throughout its entire range would be 325,000,000 board feet.

**Production.**—The reported production of “cedar” lumber in the eastern half of the United States in 1899 was 114,690,000 board feet. This included eastern red cedar, northern white cedar, and Atlantic white cedar. The maximum production occurred in 1910 and was about 126,000,000 board feet. In 1932, a year of business depression, production dropped to about 9,000,000 board feet. By 1942 it had recovered to about 39,000,000 board feet. The average annual reported cut of “cedar” lumber in the East for the 10-year period 1933–42 was approximately 26,000,000 board feet.

A comparison of the ranges of growth of the three eastern cedars with the 1942 production of “cedar” lumber by States indicates that about 19,000,000 board feet of the reported cut of “cedar” lumber in that year was eastern red cedar, of which about 10,400,000 board feet was reported from Tennessee and about 3,500,000 board feet from Kentucky. Eastern red cedar made up about 50 percent of the cut of “cedar” lumber in the Eastern States in 1942. If this proportion is assumed to hold for the 10-year period 1933–42, the average annual cut of eastern red cedar lumber in recent years would be approximately 13,000,000 board feet. In 1943 production was about at the 10-year average.

The volume of eastern red cedar used for fence posts is judged to be about four times as great as the volume of lumber manufactured, but only a small proportion of it could be used for lumber. Small amounts of eastern red cedar are used for veneer. A very rough estimate of the average annual cut in recent years of eastern red cedar big enough to saw into lumber would be the equivalent of 30,000,000 board feet.

**Properties.**—The heartwood of red cedar is bright red or dull red and the thin sapwood nearly white. The wood is moderately heavy,<sup>4</sup> moderately weak, hard, of high shock resistance, and lacking in stiffness. It has a very small shrinkage and stays in place well after seasoning. The texture is fine and uniform, and the grain is generally straight except where deflected by knots, which are common. The wood is easily worked and is unequalled for its whittling qualities. It is very resistant to decay.

**Principal uses.**—The principal use of eastern red cedar, from the standpoint of quantity, is fence posts. Eastern red-cedar lumber goes

<sup>3</sup> BARTON, J. E. THE AMOUNT OF STANDING TIMBER IN KENTUCKY. Commr. Geol. and Forestry. 1909.

<sup>4</sup> The average weight of eastern red cedar in a thoroughly air-dry condition (12 percent moisture) is 33 pounds per cubic foot.



largely into chests, wardrobes, and closet lining. For such uses the fragrance of the wood and its reputation for keeping away moths, combined with its striking color and excellent finishing properties, have made it very popular. Less important uses of eastern red cedar include flooring, pencils, scientific instruments, and small boats. Until recently, the most important use of red cedar was for lead pencils, but as one area after another has been cut over for pencil stock it has become increasingly difficult to obtain suitable material, and wood for pencils is now supplied largely by California incense-cedar. Some red cedar from Haiti has been imported for pencil manufacture, and England has imported the wood of a red cedar from Africa, which is closely related to our eastern cedar, as a substitute.

Because of its durability, eastern red cedar has been much used for cooperage, particularly waterbuckets. It was formerly used in large quantities for cabinets and house finish, window frames, and porches and also for fence rails, split shingles, telegraph poles, and general building purposes. These uses are now relatively unimportant.

Cedar leaf oil, used in medicine, is distilled from the leaves of eastern red cedar. Cedar wood oil is distilled from the wood. It is used in medicine and perfumes.

The following tabulation shows the amounts of eastern red cedar used in the manufacture of various products in 1940.<sup>5</sup> The tabulation includes eastern red cedar largely in the form of lumber, with comparatively small amounts of veneer, and logs and bolts.

<i>Classes of products:</i>	<i>Quantity— board feet</i>
Boxes, baskets, and crating-----	62, 000
Caskets and burial boxes-----	21, 000
Fixtures-----	7, 000
Flooring-----	880, 000
Furniture (chests)-----	16, 229, 000
Instruments, professional and scientific-----	347, 000
Pencils and penholders-----	715, 000
Sash, doors, general millwork----- (closet lining)	5, 050, 000
Ship and boat building-----	299, 000
Toys-----	62, 000
Woodenware and novelties-----	35, 000
Total-----	<sup>1</sup> 23, 707, 000

<sup>1</sup> This total is made up of 22,685,000 board feet of lumber, the equivalent of 367,000 board feet of veneer, and 655,000 board feet of short logs and bolts.

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<sup>5</sup> 1940 is the only year in which this information is available for eastern red cedar as a separate species.

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